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Impairments to Body Image in Meningioma of the Parietal-Occipital Area

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Objectives. To study impairments to body image in patients with typical meningioma of the parietal-occipital area before and after surgical treatment. **Materials and methods.** A total of 23 patients with diagnosis of "typical meningioma of the parietal-occipital area" were studied. A set of neuropsychological tests was used, along with the "Image-I" dissociation method and the "Silhouette" method. **Results and conclusions.** Derangements to body image were found in patients with meningioma of the parietal-occipital area, these being apparent as disorders of left-right orientation and impairment to the positioning of body parts in space and relative to each other, along with mismatch between objective weight and height values and subjective views of the individuals' own bodies. After surgery, orientation in the body improved significantly, with clear differentiation of the positions of body parts relative to each other, an appropriate relationship between the positions of the two hands, and error-free right-left orientation. Own-body perceptions became more appropriate in relation to the number of body parts and their sizes, though people's views on their own body types generally remained inappropriate.

Keywords: typical meningioma of the parietal-occipital area, body image, body scheme, attitudes to body image.

In modern clinical-psychological categories, the level of differentiation of concepts of corporeality are quite diverse: body image [1–3], body scheme [4, 5], the physical I image [6], body awareness [7], and image of the physical I [8–10] have all been described.

There is a need to discriminate the concepts of "body scheme" and "body image." Body image is a mobile, mainly visual representation, changing depending on circumstances, of one's own body formed in consciousness on the basis of a one's subjective attitudes to one's own objective features [11]. The term body scheme refers to the internal representation constructed by the brain using the functions of the parietal-temporal-occipital areas of the cerebral cortex, a model of the body reflecting its structural organization and carrying out such functions as determining the body's boundaries, forming knowledge of the body as a single whole, perceiving the positions, lengths, and sequences of its components and also their ranges of movement and degrees of freedom [12]. Body scheme is based on the overall set of ordered information relating to the dynamic organization of the subject's body [13]. Body scheme refers to the unconscious internal representation, the overall set of information on the structural organization of the body, its dynamic characteristics, and the current and changing positions of its parts, including the horizontal plane (right-left orientation) [12]. This representation is regulated by the processes maintaining and forming posture and organizing movements. The functional purpose of the body scheme as a system transforming signals from extero-, intero-, and proprioceptors is linked with systematization a person's view of him- or herself.

Studies of the phenomenon of the body scheme, mainly its psychological aspects, have been pursued intensely in the last decade, as evidenced by bibliometric analysis using the scientific online library e-Library.ru [14]. The number of scientific publications has increased by a mean factor of 1.5 per year. A similar trend has been noted in studies of the

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